

## Extended Dark Matter EFT

*Thursday 5 April 2018 17:45 (15 minutes)*

We propose a hybrid framework in the form of an effective theory, including both the dark matter states and a mediator connecting the former to the Standard Model fields. The framework overcomes the problems of traditional DM-EFT regarding the validity at high energies at collider experiments and improves the generality of the simplified models.

For fermionic and scalar dark matter with a (pseudo-)scalar mediator, the leading effects originate from dimension-five operators, allowing to capture them with a rather small set of new couplings.

The correlations between constraints from reproducing the correct relic density, direct-detection experiments, and mono-jet and Higgs + missing energy signatures at the LHC are analysed.

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**Session Classification:** Open Session B)

**Track Classification:** Default track